

IN THE CLAIMS

The following listing of claims replaces all previous listings and versions of claim in this application.

1. (Previously presented) A vehicle frame, comprising:
a first frame portion that comprises a plurality of struts associated with each other to form a first framework for supporting the frame, the struts comprising:
a first strut,
a second strut disposed lower than the first strut, and
a third strut offset horizontally from the first and second struts; and
a second frame portion separably associable with the first framework in a stiffening association for significantly increasing the stiffness of the first frame portion;
wherein the associated first framework and second frame portion are configured for supporting a rider sitting on the vehicle frame and cooperatively define and substantially enclose an interior cavity therebetween, the first, second, and third struts being disposed around and defining a portion of the cavity, the interior cavity being dimensioned for housing a component of a propulsion system for propelling the vehicle, and the frame comprising attachments for supportedly connecting to wheels of the vehicle.
2. (Original) The vehicle frame of claim 1, wherein the first frame portion comprises at least one skin member structurally associated with the struts for closing at least portions of openings defined between the struts.
3. (Previously presented) The vehicle frame of claim 2, wherein the framework has a stiffness, and the skin member of the first frame portion is configured and associated with the framework for significantly increasing the stiffness thereof.
4. (Original) The vehicle frame of claim 3, wherein the skin member of the first frame portion comprises a plurality of skins coupled with the framework.
5. (Previously presented) The vehicle frame of claim 2, wherein the skin member of the first frame portion comprises a battery tray inside the interior cavity

configured for supporting a battery to power the propulsion system the battery tray being associated with the first framework for significantly stiffening the first framework.

6. (Cancelled)

7. (Previously presented) The vehicle frame of claim 5, wherein first and second frame portions are configured for permitting removal of the battery tray from the interior cavity when the first and second frame portions are separated.

8. (Original) The vehicle frame of claim 5, wherein the struts comprise at least one concave bracket configured for receiving and supporting a bottom portion of the tray.

9. (Cancelled)

10. (Previously presented) The vehicle frame of claim 1, wherein a plurality of the struts are welded to each other.

11. (Previously presented) The vehicle frame of claim 10, wherein the struts comprise a rear group of struts that are formed in a unitary piece and define an open rear wall of the vehicle.

12. (Previously presented) The vehicle frame of claim 1, wherein the frame has a stiffness, and the second frame portion comprises a skin member configured for significantly contributing to the stiffness of the frame.

13. (Previously presented) The vehicle frame of claim 12, wherein the second frame portion comprises a plurality of struts associated with the skin member for significantly stiffening the skin member and the frame.

14. (Previously presented) The vehicle frame of claim 1, wherein the struts of the first frame portion are made of aluminum or an alloy thereof, and the second frame portion comprises a skin member made of a composite, fiber-reinforced material.

15. (Original) The vehicle frame of claim 1, wherein the first frame portion is a lower frame portion disposed beneath the second frame portion, which is an upper frame portion.

16. (Original) The vehicle frame of claim 15, wherein the lower frame portion comprises a head tube configured to rotatably receive a steering tube that is mounted with a steerable wheel of the vehicle.

17. (Original) The vehicle frame of claim 1, wherein the frame defines a stepthrough to provide a scooter frame.

18. (Previously presented) The vehicle frame of claim 1, wherein the first frame portion has a longitudinal torsional stiffness, and the associated first and second frame portions have an assembled longitudinal torsional stiffness that is increased compared to the longitudinal torsional stiffness of the first frame portion by a factor of between about 1.2 and 10.

19. (Previously presented) An electric vehicle, comprising:
the vehicle frame of claim 1;
a seat supportably mounted on at least one of the frame portions;
the wheels, which are supportively associated with the frame;
an energy source housed in the interior cavity; and
an electric motor connected to and powered by the energy source and connected to at least one of the wheels for propelling the vehicle.

20. (Original) The vehicle of claim 19, wherein the wheels on which the vehicle is movably supported comprise up to three wheels.

21. (Original) The vehicle of claim 19, further comprising a suspension system connecting the wheels to the vehicle frame.

22. (Original) The vehicle of claim 21, wherein the suspension system comprises at least one swing arm supportively associating the frame with at least one of the wheels.

23. (currently amended) An electric vehicle, comprising:
a vehicle frame, comprising:

a lower frame portion that comprises a plurality of struts associated with each other to form a lower framework and a skin member covering openings between the struts, and

a an upper frame portion comprising a skin member associable with the lower framework in a stiffening association for significantly increasing the stiffness of the ~~upper~~ lower framework,

wherein the associated lower framework and upper frame portion cooperatively define and substantially enclose an interior cavity therebetween, the struts comprising:

a first group of struts disposed to one side and defining a portion of the cavity, and

a second group of struts disposed to an opposite side of the cavity from the first group and defining another portion of the cavity;

a seat supportably mounted on the upper frame portion;

a plurality of wheels supportively associated with the frame;

an electrical energy source housed in the interior cavity; and

a electric motor connected to and powered by the energy source and connected to at least one of the wheels for propelling the vehicle.

24. (Previously presented) The vehicle of claim 23, wherein the energy source comprises a battery, the assembled frame has a torsional stiffness, and the skin member of the lower frame portion comprises a battery tray that is configured for supporting the battery to significantly increase the torsional stiffness of the assembled frame, the upper and lower frame portions being configured for allowing removal of the battery tray from the interior cavity when the upper and lower frame portions are separated, wherein the assembled frame portions are configured for substantially enclosing the battery.

25. (Previously presented) The vehicle frame of claim 1, wherein the interior cavity has a volume of at least about 1,000 in³ to contain the component of the propulsion system.

26. (Previously presented) The vehicle frame of claim 25, wherein the interior cavity has a height of at least about 15 inches and a width of at least about 6 inches.

27. (Previously presented) The vehicle frame of claim 26, wherein the interior cavity has a length of at least about 25 inches.

28. (Previously presented) The vehicle frame of claim 1, wherein the interior cavity has a volume of at least about 2,500 in³ to contain the component of the propulsion system.

29. (Previously presented) The vehicle frame of claim 1, wherein the associated first and second frame portions cooperatively substantially enclose at least top, bottom, front, and lateral sides of the interior cavity, the first, second, and third struts defining the lateral sides.

30. (Previously presented) The vehicle frame of claim 3, wherein the struts of the first frame portion and the skin member are made of aluminum or an alloy thereof and are welded together.

31. (Previously presented) The vehicle frame of claim 3, wherein the skins close off at least about 75% of the openings defined between the struts.

32. (Previously presented) The vehicle of claim 23, wherein first and second group each comprises a longitudinal strut that runs generally longitudinally, the longitudinal struts being spaced from each other substantially on opposite lateral sides of the interior cavity, the first frame portion being supported on the wheels such that the longitudinal struts are in compression, and the second frame portion extends over and across the interior cavity and is structurally associated with the longitudinal portions for substantially increasing the stiffness thereof.

33. (Previously presented) The vehicle of claim 23, wherein the plurality of struts comprises additional struts connecting the first and second groups of struts and being disposed on additional sides of the cavity.

34. (Previously presented) The vehicle frame of claim 1, wherein the plurality of struts define lateral and longitudinal sides of the cavity.

35. (Currently amended) The vehicle frame of claim 1, wherein the plurality of struts comprises a fourth strut disposed below the third strut and offset horizontally with respect to the first and second struts, such that the first and second struts are disposed to a first side of the cavity, and the third and fourth struts are disposed to a second side of the cavity.

36. (Previously presented) The vehicle of claim 35, further comprising a group of struts connecting the first and second struts to the third and fourth struts, and being disposed at least to a third side of the cavity.